SUNDAY, June 8

TUTORIAL LECTURES

SUN 5:00 **Atmospheric Pressure Ionization Techniques**; Gary van Berkel, Oak Ridge National Laboratory

Making a Start-Up Company Succeed; Gary Valaskovic, New Objective, Inc.

MONDAY MORNING, June 9

PLENARY LECTURE

8:00 – 8:45 **Rapid Climate Change: Past, Present, and Future;** Lonnie G. Thompson**,** *The Ohio State University, Columbus, OH*

MEMBRANE PROTEINS AND HYDROPHOBIC PEPTIDES

MOAam 10:15 **Mass Spectrometry of Integral Membrane Proteins in Proteomics and Structural Biology;** Julian P. Whitelegge; *UCLA The Pasarow Mass Spectrometry Laboratory, Los Angeles, CA*

MOAam 10:35 **The Mitochondrial Proteome of Normal Human Heart Tissue**; Steven W. Taylor[1]; Eoin Fahy[1]; Bing Zhang[1]; Gary M. Glenn[1]; Dale E. Warnock[1]; Sandra Wiley[1]; Anne N. Muphy[1]; Sara P. Gaucher[2]; Roderick A. Capaldi[3]; Bradford W. Gibson[2]; Soumitra S. Ghosh[1]; *[1]MitoKor, San Diego, CA; [2]Buck Institute for Age Research, Novato, CA; [3]University of Oregon, Eugene, OR*

MOAam 10:55 **Characterization of Hydrophobic Fimbrial Membrane Proteins by LC-MS and LC-MS/MS**; Sonja Hess[1]; Frederick J. Cassels[2]; John O. Cisar[3]; Lewis K. Pannell[4]; *[1]NIDDK, Bethesda, MD; [2]WRAI, Silver Spring, MD; [3]NIDCR, Bethesda, MD; [4]University of Southern Alabama, Mobile, AL*

MOAam 11:15 **Disulfide Mapping of Outer Membrane Proteins from *Chlamydia trachomatis* Serovar F**; Eric A. Berg[1]; Yan Wang[2]; Mark E. McComb[1]; You X. Zhang[2]; Catherine E. Costello[1]; *[1]Boston University School of Medicine, Mass Spectrometry Resource, Boston, MA; [2]Boston University School of Medicine, Department of Medicine, Boston, MA*

MOAam 11:35 **Mass Spectrometry of Integral Membrane Transport Proteins**; Adam B. Weinglass[1]; Julian P. Whitelegge[2]; Yonglin Hu[1]; Gillian Verner[1]; Jose L. Vazquez-Ibar[1]; Wil N. Konings[3]; Gerard Leblanc[4]; Heinrich Jung[5]; Kym F. Faull[2]; Ronald H. Kaback[1]; *[1]Howard Hughes Medical Institute, UCLA, Los Angeles, CA; [2]The Pasarow Mass Spectrometry Laboratory, UCLA, Los Angeles, CA; [3]Dept. of Microbiology, University of Groningen, Groningen, NL; [4]University of Nice Sophia-Antopolis, Nice, FR; [5]Fachbereich Biologie/Chemie, University of Osnabruck, Osnabruck, DE*

MOAam 11:55 **Exploring the Structure and Dynamics of Rhodopsin Using Chemical Cross-Linking and LC/MS**; Malin M. Young; Petr Novak; Gary H. Kruppa; Joe Schoeniger; *Sandia National Laboratories, Livermore, CA*

TIME-OF-FLIGHT MASS SPECTROMETRY

MOBam 10:15 **Milestones on the Time-of-Flight Journey: from Niche Technology to Mainstream MS**; Kenneth G. Standing; *University of Manitoba, Winnipeg, Canada*

MOBam 10:55 **SIMS Study Using Large Gold Cluster Primary Ions for the Detection of Small Biomolecules**; Agnes Tempez[1]; Serge Della-Negra[2]; Joel Depauw[2]; Dominique Jacquet[2]; Yvon Le Beyec[2]; Alexei Novikov[2]; Michele Pautrat[2]; Michael Ugarov[1]; J. Albert Schultz[1]; Katrin Fuhrer[2]; Marc Gonin[2]; Amina Woods[3]; *[1]Ionwerks, Houston, Texas; [2]Institut de Physique Nucléaire, Orsay, France; [3]NIDA IRP, Baltimore, MD*

MOBam 11:15 **A High Performance E4TOF Mass Spectrometer**; S. E. Buttrill, Jr.; David Knight; Peter Trinh; *Ciphergen Biosystems Inc., Fremont, California*

MOBam 11:35 **Simultaneous Acquisition of Peptide Mass Map and Sequence Information for Peptides, Peptide Mixtures, and Protein Digests Employing MALDI-IM-SID-TOF-MS with a Micro-Crystal ND:YAG (355nm) kHz Laser**; Earle G. Stone; Kent J. Gillig; Shane E. Tichy; David H. Russell; *Texas A&M University, College Station, Texas*

MOBam 11:55 **Tunable VUV Free Electron Laser Ionization and Analysis with a Novel Time of Flight Spectrometer**; J. F. Moore[1]; W.F. Calaway[1]; C.Y. Chen[4]; P. DenHartog[1]; Bruce King[2]; J.W. Lewellen[1]; Y. Li[1]; S.V. Milton[1]; E.R. Moog[1]; M.J. Pellin[1]; M. Petravic[3]; I.V. Veryovkin[1]; *[1]Argonne National Laboratory, Argonne, IL; [2]University of Newcastle, Newcastle, Australia; [3]Australian National University, Canberra, Australia; [4]Earth Science Institute, Taipei, Taiwan*

STABLE ISOTOPE LABELING AND QUANTITATIVE PROTEOMICS

MOCam 10:15 **Stable Isotope Tagging for Quantitative Proteomics**; Ruedi H. Aebersold; *Institute for Systems Biology, Seattle, WA*

MOCam 10:55 **Selective Extraction of Labelled Entities by Charge derivatization and Tandem Mass Spectrometry (SELECT): A Novel Approach for Identification and Quantitation of Differential Protein Expression**; Gavin E. Reid[1]; Richard J. Simpson[1]; A.J. O'Hair[2]; *[1]Joint ProteomicS Laboratory. Ludwig Institute for Cancer Research, Parkville, Victoria, Australia; [2]Ludwig Institute for Cancer Research, Parkville, Victoria, Australia*

MOCam 11:15 **Mass Spectrometric Quantitation of Histone H3 Methylation Mediated by an Early Development Regulator Protein Ezh2**; Andrew N. Krutchinsky; Su I-hsin; Alexander Tarakhovsky; Brian T. Chait; *The Rockefeller University, New York, NY*

MOCam 11:35 **Dynamics of Large Multi-Protein Complexes Studied by Stable Isotope Labeling with Amino Acids in Cell Culture**; Jens S Andersen[1]; Yun W Lam[2]; Shao-En Ong[1]; Angus I Lamond[2]; Mathias Mann[1]; *[1]University of Southern Denmark, Odense, Denmark; [2]University of Dundee, Dundee, UK*

MOCam 11:55 **Absolute Quantification (AQUA) of Posttranslationally-Modified Proteins**; Scott A. Gerber[1]; John Rush[2]; Junmin Peng[1]; Steven P. Gygi[1]; *[1]Harvard Medical School, Boston, MA; [2]Cell Signaling Technology, Inc., Beverly, MA*

ADME: MS CHALLENGES AND SOLUTIONS

MODam 10:15 **LC-MS - A Critical Tool for ADME Studies**; Cornelis E.C.A. Hop; *Pfizer Global Research & Development, Groton, CT*

MODam 10:55 **Bioanalytical Challenges Associated with the Use of *in vitro* Methods to Assess Clinical Drug-Drug Interaction Potential**; Bradley L. Ackermann; James E. Eckstein; Barbara J. Ring; Ajai K. Chaudhary; *Drug Disposition, Eli Lilly and Company, Indianapolis, IN*

MODam 11:15 **A Sensitive Method for Plasma Metabolite Identification Using Nano LC/Ion Trap MS in Conjunction with a Microplate Scintillation Counter**; Richard Gedamke; Weiping Zhao; Stephen Gozo; James Mitroka; Mingshe Zhu; *Bristol-Myers Squibb Pharmaceutical Research Institute, Princeton, NJ*

MODam 11:35 **Using MALDI TOF/TOF MS/MS to Provide Simultaneous Drug/Metabolite Quantification and Identification**; Edward J. Takach[1]; Qing Zhu[1]; Golnaz Shapurian[1]; Jennifer M. Campbell[2]; Marvin L. Vestal[2]; Paul Danis[2]; Lawrence Gan[1]; Sandeepraj Pusalkar[1]; Frank Hsieh[1]; *[1]Millennium Pharmaceuticals, Cambridge, MA; [2]Applied Biosystems, Framingham, MA*

MODam 11:55 **Molecular Imaging of Small Molecules in Tissue Using Orthogonal Matrix-Assisted Laser Desorption/Ionization Mass Spectrometry**; Yunsheng Hsieh[1]; Michelle L. Reyzer[2]; Richard M. Caprioli[2]; Jane Y. Zhao[3]; Min Yang[3]; Kwokei Ng[1]; Walter Korfmacher[1]; *[1]Schering-Plough Research Institute, Kenilworth, NJ; [2]Vanderbilt University, Nashville, TN; [3]Applied Biosystems / MDS Sciex, Concord, Ontario, Canada*

GAS PHASE ION DYNAMICS

MOEam 10:15 **Photoelectron Photocoincidence Spectroscopy with Velocity Imaging of Threshold Electrons**; Tomas Baer; Balint Sztaray; *University of North Carolina, Chapel Hill, NC*

MOEam 10:55 **Charge Transfer Reactions of O_2^+ with Alkylbenzenes at High Pressure: Stabilization of the Excited Intermediate and Determination of the Step Sizes for Collisional Energy Transfer**; Albert A. Viggiano[1]; Skip Williams[1]; Jurgen Troe[2]; Thomas. M. Miller[1]; Abel Fernandez[1]; J.F. Friedman[1]; S.T. Arnold[1]; J.V. Seeley[3]; *[1]Air Force Research Laboratory, Hanscom AFB, MA; [2]University of Goettingen, Goettingen, Germany; [3]Oakland University, Rochester, MI*

MOEam 11:15 **Interstellar Ion Chemistry: Reactions of Organic Anions with Atomic Hydrogen, Nitrogen, and Oxygen**; Veronica M. Bierbaum; Theodore P. Snow; Brian Eichelberger; Momir Stepanovic; Cynthia Barckholtz; *University of Colorado, Boulder, CO*

MOEam 11:35 **Periodicities in the Reactivities of Transition-Metal Cations with NO in the Gas Phase**; Eric Flaim[2]; Michael J.Y. Jarvis[1]; Voislav Blagojevic[1]; Diethard K. Bohme[1]; *[1]Department of Chemistry, York University, Toronto, Canada; [2]Department of Chemistry, University of Alberta, Edmonton, Canada*

MOEam 11:55 **Effect of the Surface on the Energy Transfer in Ion-Surface Collisions**; Julia Laskin; Jean H Futrell; *Pacific Northwest National Laboratory, Richland, WA*

SYNTHETIC POLYMER ANALYSIS

MOFam 10:15 **Mass Spectrometry of Polymers**; Scott D. Hanton; *Air Products and Chemicals, Inc., Allentown, PA*

MOFam 10:55 **On-Line Coupling of Atmospheric-Pressure Ionization Mass Spectrometry with Size-Exclusion Chromatography for Polymer Analysis**; Laszlo Prokai[1]; William J. Simonsick, Jr. [2]; *[1]University of Florida, Gainesville, FL; [2]Du Pont Marshall Laboratory, Philadelphia, PA*

MOFam 11:15 **Characterizing Co-Polyesters by MALDI FTICR and Gel Permeation Chromatography**; Todd H. Mize[1]; William J. Simonsick[2]; I. Jonathan Amster[1]; *[1]Department of Chemistry, University of Georgia, Athens, GA; [2]Dupont Marshall R & D Laboratory, Philadelphia, PA*

MOFam 11:35 **MALDI-MS Characterization of Hyperbranched Polymers**; Chrys Wesdemiotis[1]; Michael J. Polce[1]; Frank W. Harris[2]; Jong-Beom Baek[2]; *[1]The University of Akron, Department of Chemistry, Akron, OH; [2]The University of Akron, Department of Polymer Science, Akron, OH*

MOFam 11:55 **Characterization of Oligomeric HALS (Hindered Amine Light Stabilizers) by MALDI, LC/MS and ESI**; Ted T. Chang; Michael J. Piquette; Martin L. Cohen; *Cytec Industries Inc., Stamford, CT*

MONDAY AFTERNOON

NOBEL PRIZE CELEBRATION

3:00 – 5:00 **Koichi Tanaka,** *Shimadzu Corporation*
John Fenn, *Virginia Commonwealth University*

TUESDAY MORNING, June 10

AWARD LECTURE

8:00 – 8:45 **Recipient of the Award for a Distinguished Contribution in Mass Spectrometry**

FT-ICR: INSTRUMENTATION

TOAam 10:15 **High Speed Data-Dependent HPLC FT-ICR MS/MS**; Greg T. Blakney; Michael J. Chalmers; TuKiet T. Lam; Mark R. Emmett; Christopher L. Hendrickson; Alan G. Marshall; *Ion Cyclotron Resonance Program, National High Magnetic Field Laboratory, Tallahassee, FL*

TOAam 10:35 **Automated High Throughput Peptide Mapping with a Novel MALDI FT-ICR Mass Spectrometer**; David M. Horn; Ansgar Brock; Eric C. Peters; Qui T. Phung; Daniel E. Mason; *GNF, San Diego, CA*

TOAam 10:55 **Utilizing Q-FTMS toward Automated Top-Down Proteomics of *Methanococcus jannaschii* and *Saccharomyces cerevisiae***; Steven M. Patrie; Andrew J. Forbes; Fanyu Meng; Leah M. Miller; Gregory K. Taylor; Yong-Bin Kim; Ryan E. McCarthy; Dana E. Robinson; Neil L. Kelleher; *University of Illinois, Urbana, IL*

TOAam 11:15 **Development and Application of Combined Infrared Multiphoton and Electron Capture Dissociation with a Hollow Electron Beam in Fourier Transform Ion Cyclotron Resonance Mass Spectrometry**; Youri O. Tsybin[1]; Matthias Witt[2]; Frank Kjeldsen[1]; Goekhan Baykut[2]; Roman A. Zubarev[1]; Per Hakansson[1]; *[1]Division of Ion Physics, Uppsala University, Uppsala, Sweden; [2]Bruker Daltonik GmbH, Bremen, Germany*

TOAam 11:35 **Instrumentation for High Throughput Fourier Transform Ion Cyclotron Resonance Analysis of Non-Covalent RNA Complexes and PCR Products**; Jared J. Drader; James C. Hannis; Steven A. Hofstadler; *Ibis Therapeutics - A Division of Isis Pharmaceuticals, Carlsbad, CA*

TOAam 11:55 **A Hybrid Two-Dimensional Quadrupole Ion Trap/ Fourier Transform Ion Cyclotron Mass Spectrometer: Accurate Mass and High Resolution at a Chromatography Timescale**; Stevan Horning[1]; Robert Malek[1]; Andreas Wieghaus[1]; Michael W. Senko[2]; John E.P. Syka[2]; *[1]Thermo Electron, Bremen, Germany; [2]Thermo Electron, San Jose, CA*

MS AND CRIME AND TERRORISM

TOBam 10:15 **The use of Mass Spectrometry for the Identification of Explosives and Poisons in the Israeli Police**; Tsippy Tamiri; *Israel Police, Jerusalem, Israel*

TOBam 10:55 **Forensics and Terrorism: Useful Stable Isotope Approaches**; James R. Ehleringer; *University of Utah, Salt Lake City, UT*

TOBam 11:15 **Traces, Trials and Tribulations - the Use of Mass Spectrometry for the Trace Analysis of Explosives**; Andrew Crowson; *Forensic Explosives Laboratory, Dstl,, Sevenoaks, Kent, UK*

TOBam 11:35 **Where Does the Mass Spectrometer Fit Inside the Fire Investigator's Tool Box?** Raymond J. Kuk; *United States Bureau of Alcohol, Tobacco, Firearms and Explosives, Beltsville, MD*

TOBam 11:55 **Mass Spectral Confirmation of Nitro-Based Explosives Using Negative Chemical Ionization Mass Spectrometry with Alternate Reagent Gasses**; Jeffrey G McDonald; Kelly Mount; Mark L Miller; *Federal Bureau of Investigation, Quantico, VA*

LIPIDS IN SIGNALING

TOCam 10:15 **Oxidized Phospholipids: Interesting Activity and Interesting Tandem Mass Spectrometry**; Robert C. Murphy[1]; Kathleen Harrison[1]; Marvin Vestal[2]; Jennifer Campbell[2]; *[1]National Jewish Medical and Research Center, Denver, CO; [2]Applied Biosystems, Framingham, MA*

TOCam 10:55 **Lipidomics of Lipid Rafts: A Quantitative Electrospray Ionization Mass Spectrometric Analysis**; Xianlin Han; *Washington University School of Medicine, St. Louis, MO*

TOCam 11:15 **Sphingolipidomics: Utilization of Mass Spectrometry to Unravel the Complexities of Sphingolipid Metabolism and Cell Signaling**; M. Cameron Sullards; Alfred H. Merrill, Jr; Elaine W. Wang; Samuel L. Kelley; *Georgia Institute of Technology, Atlanta, GA*

TOCam 11:35 **Phosphoinositide Profiling in Complex Lipid Mixtures Using Electrospray Ionization Mass Spectrometry**; Markus R Wenk[1]; Louise Lucast[1]; Walter McMurray[3]; Pietro De Camilli[2]; *[1]Yale University School of Medicine, New Haven, CT; [2]Howard Hughes Medical Institute, New Haven, CT; [3]W.M. Keck Mass Spectrometry Resource, New Haven, CT*

TOCam 11:55 **Rapid Monitoring of Cardiolipin Oxidations by ESI-MS/MS**; Steven C Halls; Marc Fariss; James E Bruce; William F Siems; *Washinigton State University, Pullman, WA*

RNA STRUCTURE AND SCREENING

TODam 10:15 **Modified Nucleotides in RNA: Putting Them in Their Place**; Pamela F. Crain; *University of Utah, Salt Lake City, UT*

TODam 10:35 **FTMS-Based Strategies for Protein-RNA Footprinting: Investigation of the Interactions between HIV-1 Nucleocapsid Protein p7 and Psi-RNA**; Eizadora Yu; Kathy Kellersberger; Daniele Fabris; *University of Maryland, Baltimore County, Baltimore, MD*

TODam 10:55 **Modifications in *Thermus thermophilus* 23S rRNA: Involvement in RNA-RNA Contact;** Jonas Mengel-Jørgensen; Jacob Pøhlsgaard; Jens J.L. Iversen; Finn Kirpekar; *Dept. of Biochem. & Mol. Biol., University of Southern Denmark, Odense, Denmark*

TODam 11:15 **Mapping of Pseudouridine Residues in Large RNAs by LC/MS/MS**; Steven C Pomerantz; James A. McCloskey; *University of Utah, Salt Lake City, UT*

TODam 11:35 **Functional Microfabricated Devices for the Mass Spectral Analysis of Nucleic Acids**; Beniam Berhane; Patrick A Limbach; *University of Cincinnati, Cincinnati, OH*

TODam 11:55 **RNA Structure Mapping Using High Performance Mass Spectrometry**; Lendell L. Cummins; Kristin A. Sannes-Lowery; Richard H. Griffey; Tom Hall; Steven A. Hofstadler; *Ibis Therapeutics, a Division of Isis Pharmaceuticals, Inc., Carlsbad, CA*

POLYMER MASS SPECTROMETRY: FUNDAMENTAL ASPECTS

TOEam 10:15 **Thermochemical and Conformational Properties of Oligomeric Ions from Gas Phase Ion Studies**; Douglas P. Ridge; Burnaby Munson; Michael Lassman; *University of Delaware, Newark, DE*

TOEam 10:55 **Fundamental Aspects of Polymer Fragmentation**; Michael J. Polce; Chrys Wesdemiotis; *The University of Akron, Akron, OH*

TOEam 11:15 **Molecular Mass Determination of Saturated Hydrocarbons Using Organometallic Ion Chemistry**; H.C. Michelle Byrd[1]; Charles M. Guttman[1]; Scott Robinson[2]; Douglas P. Ridge[2]; *[1]National Institute of Standards and Technology, Gaithersburg, MD; [2]University of Delaware, Newark, DE*

TOEam 11:35 **Analysis of Non-Polar Hydrocarbon Polymers by Using Laser-Induced Acoustic Desorption Fourier Transform Ion-Cyclotron Resonance (LIAD/FT-ICR) Mass Spectrometry**; J. Larry Campbell; Kenroy M. Crawford; Hilkka I. Kenttamaa; *Department of Chemistry, Purdue University, West Lafayette, IN*

TOEam 11:55 **A Study of Metal Ion Attachment to Non-Ionic Surfactants by Electrospray Ionization FTICR Mass Spectrometry**; Khaled M. Edbey; Grainne M. Moran; Gary D. Willett; *The University of New South Wales, Sydney, Australia*

METAL IONS AND MACROMOLECULES

TOFam 10:15 **Aromatic Ring Destruction in Complexes of Metal Dications**; Alexandre A. Shvartsburg; *FDA National Center for Toxicological Research, Jefferson, AR*

TOFam 10:35 **Gas Phase Ion/Ion Reactions as a New Technique for Generating and Studying Interactions of Metal Ions with Peptide and Protein Ions**; Kelly A. Newton; Scott A. McLuckey; *Department of Chemistry, Purdue University, West Lafayette, IN*

TOFam 10:55 **Why is $Al_{11}B_2^-$ Not a Magic Number in TOF-MS?**; Jian Wan; Rene Fournier; *York University, Toronto, Canada*

TOFam 11:15 **Complexation of Silver and Co-Recovered Metals with Novel Aza-Crown Ether Macrocycles by ESI-MS**; Sheldon M. Williams[1]; Jennifer S. Brodbelt[1]; Alan P. Marchand[2]; *[1]University of Texas, Austin, TX; [2]University of North Texas, Denton, TX*

TOFam 11:35 **The Synergy of Tandem Atomic and Molecular Mass Spectrometry Approaches for Characterizing Metalloproteins**; Sandra N. Mounicou; Juris Meija; Patrick A. Limbach; Joseph A. Caruso; *University of Cincinnati, Department of Chemistry, Cincinnati, OH*

TOFam 11:55 **Mass Spectrometry as a Tool to Determine the Coordination Structure of Metal-Containing**

Proteins; Jihyeon Lim; Richard W. Vachet; *University of Massachusetts, Amherst, MA*

TUESDAY AFTERNOON

FORENSIC APPLICATIONS OF MASS SPECTROMETRY

TOApm 3:00 **Mass Spectromery as a Tool for Biodetection**; Kent J. Voorhees[1]; Jon C. Rees[1]; Angelo Madonna[1]; Ted L. Hadfield[2]; Virgine Ruelle[1]; *[1]Colorado School of Mines, Golden, CO; [2]Armed Forces Institute of Pathology, Washington, DC*

TOApm 3:40 **Forensic Comparison of Packaging Tapes - An Elemental and Isotopic Perspective**; Andrew M. Dobney; Wim Wiarda; Peter de Joode; Gerard J.Q. van der Peijl; *Netherlands Forensic Institute (NFI), Rijswijk, The Netherlands*

TOApm 4:00 **Optimization of Electrospray Ionization Mass Spectrometric Detection for the Analysis of Smokeless Powders**; John A. Mathis; Olivier Collin; Bruce R. McCord; *Ohio University, Athens, OH*

TOApm 4:20 **The Application of MALDI-TOF MS for Bacterial Identification in a Forensic Environment**; Karen L. Wahl; Nancy B. Valentine; Sharon C. Wunschel; David S. Wunschel; Catherine E. Petersen; Kristin H. Jarman; *Pacific Northwest National Laboratory, Richland, WA*

TOApm 4:40 **Analysis of Pen Inks Dyes and Pigments by Laser Desorption Mass Spectrometry**; John Allison; Jamie Dunn; Leah Balko; Donna Grim; *Michigan State University, East Lansing, MI*

INSTRUMENTATION: NEW FRONT-END MALDI TECHNIQUES

TOBpm 3:00 **On-Target Clean-Up and Concentration of Biological Samples**; Ron Orlando; *CCRC/UGA, Athens, GA*

TOBpm 3:20 **New Surface Enhanced Neat Desorption SELDI Protein Biochip Arrays for Evaluating the Low Molecular Weight Proteome**; Scot, R. Weinberger; Shanhua Lin; Rosa Viner; Noataka Kitagawa; Daniel Chang; Ning Tang; *Ciphergen Biosystems, Fremont, CA*

TOBpm 3:40 **Low Cost Hydrophobic/Hydrophilic Single Use MALDI Targets and Precision Multicolumn Direct Deposition Device for Off-Line µLC MALDI MS**; Ansgar Brock; Qui T. Phung; Eric C. Peters; *Genomics Institute of the Novartis Research Foundation, San Diego, CA*

TOBpm 4:00 **Orthogonal Ion Extraction MALDI-TOF with a Single-Quadrupole: Features and Applications for DNA/RNA Analysis**; Stefan Berkenkamp[1]; Franz Hillenkamp[2]; Dirk van den Boom[1]; *[1]Sequenom Inc., San Diego, CA; [2]University of Muenster, Münster, Germany*

TOBpm 4:20 **MALDI MS/MS on a Triple Quadrupole Mass Spectrometer: A New Technology for High Throughput Small Molecule Quantitation**; Jay J. Corr; Thomas R. Covey; Tung K. Chau; Peter Kovarik; William Fisher; *MDS SCIEX, Concord, Ontario*

TOBpm 4:40 **Off-Line HPLC MALDI MS: New Interfacing Technology and Applications**; Liang Li; Boyan Zhang; Chris McDonald; Alan Doucette; Nancy Zhang; Nan Li; Hongying Zhong; *Department of Chemsitry, University of Alberta, Edmonton, Alberta, Canada*

PROTEOMICS IN CANCER DISCOVERY

TOCpm 3:00 **Multiple High-Resolution Serum Proteomic Features for Ovarian Cancer Detection**; Thomas P Conrads[1]; Vince Fusaro[2]; Sally Ross[2]; Ben Hitt[4]; Peter Levine[4]; Seth Steinberg[2]; David Fishman[5]; Emanuel F Petricoin III[3]; Lance A. Liotta[2]; Timothy D. Veenstra[1]; *[1]SAIC-Frederick, Frederick, MD; [2]National Cancer Institute, Bethesda, MD; [3]Food and Drug Administration, Bethesda, MD; [4]Correlogic Systems Inc, Bethesda, MD; [5]Northwestern University Medical School, Chicago, IL*

TOCpm 3:40 **Affinity Capture of Signal Transduction Protein Complexes from Ovarian Carcinoma and Benign Ovarian Epithelium**; David M Berman[1]; Ie-Ming Shih[2]; Lorri-Anne Burke[1]; Timothy Veenstra[5]; Ying-Ming Zhao[3]; Thomas Conrads[5]; Sung Won Kwon[3]; Van Hoang[5]; Li-Rong Yu[5]; Ming Zhou[5]; Emmanuel F. Petricoin[4]; Lance A. Liotta[1]; *[1]National Cancer Institute, Bethesda, MD; [2]Johns Hopkins University School of Medicine, Baltimore, MD; [3]University of Texas Southwestern Medical Center, Dallas, TX; [4]Food and Drug Administration, Bethesda, MD; [5]SAIC-Frederick Inc., National Cancer Institute, Bethesda, MD*

TOCpm 4:00 **Protein Microarray for Prostate Cancer Using Liquid Proteome Fractionation**; Fang Yan[1]; Arun Sreekumar[2]; Bhrathi Laxman[2]; Arul Chinnaiyan[3]; David M. Lubman[1]; *[1]Department of Chemistry, The University of Michigan, Ann Arbor, MI; [2]Department of Pathology, The Univerisity of Michigan, Ann Arbor, MI; [3]Pathology, Urology and Cancer Center, The University of Michigan, Ann Arbor, MI*

TOCpm 4:20 **New Approaches to the Detection of Cancer Biomarkers from Small Sample Sizes Using Laser Capture Microdissection with Mass Spectrometry**; Billy Wu[1]; Geoffrey G. Goodrich[2]; Steven T. Kunitake[2]; William S. Hancock[3]; *[1]Thermo Electron, San Jose, CA; [2]Arcturus, Mountain View, CA; [3]Northeastern University, Boston, MA*

TOCpm 4:40 **Protein Biomarkers in Oncology**; Stephen Naylor; *Beyond Genomics, Waltham, MA*

PHARMACOLOGY AND TOXICOLOGY

TODpm 3:00 **Mass Spectrometry In Pharmacology And Toxicology**; Ian A. Blair; *Center for Cancer Pharmacology, University of Pennsylvania, Philadelphia, PA*

TODpm 3:20 **Independent Generation of 5-(2'-deoxycytidinyl)methylene Radical from Photolabile Precursor and the Formation of a Novel Cross-Link Lesion between 5-Methylcytosine and Guanine**; Qibin Zhang; Yinsheng Wang; *University of California, Riverside, CA*

TODpm 3:40 **New Strategies in Characterization and Quantitation of Antibody-Targeted Drug Conjugates in Plasma Using LC/LC/MS**; Miryam Kadkhodayan; Emily E Mann; Fred Jacobson; Chien Lee; *Genentech, Inc., South San Francisco, CA*

TODpm 4:00 **Probing the Reactivity of Specific Positions within DNA towards Carcinogens and Drugs by Stable Isotope Labeling HPLC-ESI-MS/MS**; Natalia Tretyakova; Rebecca Ziegel; Brock Matter; *University of Minnesota, Minneapolis, MN*

TODpm 4:20 **Study of Cisplatin Induced Hemoglobin Structural Changes Using HPLC/ICPMS and Nanospray**

Tandem MS; Xing-Fang Li; Rupasri Mandal; Robyn Kalle; *University of Alberta, Edmonton, Canada*

TODpm 4:40 **Comprehensive Protein Mapping of Rat Liver Mitochondria**; Richard C. Jones; Ritchie J. Feuers; Ricky D. Edmondson; *National Center for Toxicological Research/FDA, Jefferson, AR*

CHIRAL AND OTHER STEREOCHEMICAL DETERMINATIONS BY MASS SPECTROMETRY

TOEpm 3:00 **Stereoselectivity and Chiral Recognition. What Can One Expect from Mass Spectrometry?**; Frantisek Turecek; *University of Washington, Seattle, WA*

TOEpm 3:40 **Exploring Quantitative Methods for Enantiomeric Measurements by Mass Spectrometry**; W. Andy Tao[1]; Lianming Wu[2]; R. Graham Cooks[2]; *[1]Institute for Systems Biology, Seattle, WA; [2]Purdue University, West Lafayette, IN*

TOEpm 4:00 **The Role of Selectors in Gas-Phase Selective Reactions**; Carlito B. Lebrilla; *University of California, Davis, CA*

TOEpm 4:20 **Colission Induced Dissociation of Diasteromeric Gas Phase Salt Complexes**; Scott Gronert; Keiko Okamoto; Adelaide Fagin; *San Francisco State University, San Francisco, CA*

TOEpm 4:40 **In situ Recognition of Molecular Chirality by Mass Spectrometry. Influence of Hydration On Chirality Effects on DMT Cluster Stability;** Eugene N Nikolaev[1]; Graham Cooks[2]; *[1]The Institute for Energy Problems of Chem.Phys. Russian Acad. of Sci., Moscow, Russia; [2]Purdue University, West Lafayette, IN*

GLYCOMICS

TOFpm 3:00 **Glycomics of Glycosaminoglycans by Capillary Electrophoresis/Quadrupole Time-of-Flight Tandem Mass Spectrometry**; Alina D. Zamfir[1]; Daniela G. Seidler[2]; Hans Kresse[2]; Jasna Peter-Katalinic[1]; *[1]Institute for Medical Physics and Biophysics, Muenster, Germany; [2]Institute for Physiological Chemistry and PathobioChemistry, Muenster, Germany*

TOFpm 3:20 **Structural Characterization of Oligosaccharides Using MALDI/TOF/TOF Tandem Mass Spectrometry**; Yehia Mechref[1]; Cheni Krishnan[2]; Milos V. Novotny[1]; *[1]Indiana University, Bloomington, IN; [2]Applied Biosystems, Framngham, MA*

TOFpm 3:40 **Characterisation of Complex Oligosaccharides Using a MALDI QIT TOF Mass Spectrometer**; Chris W Sutton[1]; Rachel Martin[1]; David Harvey[2]; *[1]Shimadzu Biotech, Manchester, UK; [2]Glycobiology Institute, Oxford, UK*

TOFpm 4:00 **Application of Proteomics for Mapping Post-Translational Modifications in *Pseudomonas aeruginosa***; Michael Schirm[1]; Susan Logan[2]; Ian Schoenhofen[2]; Reuben Ramphal[3]; Karen Waldron[1]; Pierre Thibault[4]; *[1]University of Montreal, Montreal, Canada; [2]Institute for Biological Sciences, NRC, Ottawa, Canada; [3]University of Florida, Gainesville, FL; [4]Caprion Pharmaceuticals, Montreal, Canada*

TOFpm 4:20 **Development of Functional Group Selective Ion/Molecule Reactions with FT-ICR Mass Spectrometry for Screening of Phosphorylated Metabolites in Biological Mixtures**; Christopher J. Petzold; Michael D. Leavell; Julie A. Leary; *University of California, Dept. of Chemistry, Berkeley, CA*

TOFpm 4:40 **Sequencing the Primary Structure of Anionic Potato Peroxidase**; Julian A Saba[1]; Werner Ens[2]; Kenneth G Standing[2]; Mark A Bernards[3]; Helene Perreault[1]; *[1]University of Manitoba, Department of Chemistry, Winnipeg, Canada; [2]University of Manitoba, Department of Physics, Winnipeg, Canada; [3]University of Western Ontario, Department of Plant Sciences, London, Canada*

WEDNESDAY MORNING, June 11

AWARD LECTURE

8:00 – 8:45 **Recipient of the Biemann Medal**

QUADRUPOLE ION TRAPS: INSTRUMENTATION AND METHODS

WOAam 10:15 **Frontiers in Quadrupole Ion Traps**; R Graham Cooks[1]; Robert J. Noll[1]; Alexander Makarov[2]; Zheng Ouyang[1]; *[1]Purdue University, West Lafayette, IN; [2]ThermoFinnigan, Bremen, Germany*

WOAam 10:35 **Characterization of Intact Proteins Using IRMPD and Quadrupole Ion Trap Mass Spectrometry**; David M Black; Johanna D Stephens; Gary L Glish; *University of North Carolina, Chapel Hill, NC*

WOAam 10:55 **Manipulation of Protein Charge States and Polarity *in vacuo***; Min He; Scott, A. McLuckey; *Department of Chemistry, Purdue University, West Lafayette, IN*

WOAam 11:15 **The Effect of Dual Detectors on Linear Ion Trap Quantitative and Qualitative Performance**; Rohan A Thakur; Jae Schwartz; *ThermoElectron Corp, San Jose, CA*

WOAam 11:35 **Ion Trap Mass Spectrometry of Fluorescently Labeled Nanoparticles and High Mass Biomolecules**; Wen-Ping Peng; Yong Cai; Huan-Cheng Chang; *Institute of Atomic and Molecular Sciences (IAMS), Taipei, Taiwan*

WOAam 11:55 **A Non-Linear Ion Trap Mass Spectrometer with High Ion Storage Capacity**; Carsten Baessmann; Andreas Brekenfeld; Gabriela Zurek; Ulrike Schweiger-Hufnagel; Markus Lubeck; Thorsten Ledertheil; Ralf Hartmer; Michael Schubert; *Bruker Daltonik GmbH, Bremen, Germany*

PROTEIN CONFORMATION AND BINDING

WOBam 10:15 **Identification of Temperature Dependent Conformational Changes in the E. coli Heat Shock Transcription Factor by Hydrogen/Deuterium Exchange**; Wolfgang Rist[1]; Thomas D.J. Jorgensen[2]; Peter Roepstorff[2]; Bernd Bukau[1]; Matthias P. Mayer[1]; *[1]Zentrum für Molekulare Biologie, Universität Heidelberg, Heidelberg, Germany; [2]Department of Biochemistry and Molecular Biology, Odense, Denmark*

WOBam 10:35 **PLIMSTEX: A Novel Method for Quantification of *P*rotein-*L*igand *I*nteractions by *M*ass *S*pectrometry, *Ti*tration, and H/D *Ex*change**; Michael L. Gross; Mei M. Zhu; Don L. Rempel; Zhaohui Du; *Washington University, St. Louis, MO*

WOBam 10:55 **From Epitope Mapping to Structures of Protein-Protein Complexes Using Amide H/D Exchange and Protein Docking;** Elizabeth Komives, Ganesh Anand; Dennis Law; Lynn Ten Eyck; Susan, Taylor; *University of California, San Diego, CA*

WOBam 11:15 **Photochemical Protein Surface Mapping as an Indicator of Computational Structure Model Accuracy**; Joshua S. Sharp[1]; Juntao Guo[1]; Vibha

Gupta[4]; Tomoaki Uchiki[1]; Kyle Ellrott[1]; Jeffrey M. Becker[1]; Dong Xu[3]; Ying Xu[3]; Chris Dealwis[1]; Robert L. Hettich[2]; *[1]School of Genome Science and Technology, University of Tennessee, Knoxville, TN; [2]Chemical Sciences Division, Oak Ridge National Laboratory, Oak Ridge, TN; [3]Computational Biology Group, Oak Ridge National Laboratory, Oak Ridge, TN; [4]BCMB Department, University of Tennessee, Knoxville, Knoxville, TN*

WOBam 11:35 **Elucidating RNA-Protein Interactions Using Surface Plasmon Resonance Biosensor and Mass Spectrometry**; John J. Gilligan; Emine Yikilmaz; Tracey A. Rouault; Alfred L. Yergey; *NICHD, NIH, Bethesda, MD*

WOBam 11:55 **Electron Transfer Induced Fragmentations for the Structural Probing of Non-Covalent Interactions in Native Cytochrome *c* by FT-ICR Mass Spectrometry**; Kathrin Breuker; *Department of Chemistry, Innsbruck University, Innsbruck, Austria*

LCMS: FUTURE OF LIQUID SEPARATIONS

WOCam 10:15 **Liquid Chromatography Desorption/Ionization on Silicon (LC DIOS)**; Eden Go[1]; Jessica Prenni[1]; Dan Wall[3]; Wei Chen[2]; Zhouxin Shen[2]; Gary Siuzdak[1]; *[1]The Scripps Research Institute, La Jolla, CA; [2]Mass Consortium Corporation, San Diego, CA; [3]Waters Corporation, Milford, MA*

WOCam 10:35 **Characterization of MALDI on a Triple Quadrupole Mass Spectrometer for Analysis and Quantitation of Small Molecules**; Mark J. Cole[1]; John S. Janiszewski[1]; Jason S. Gobey[1]; Jay J. Corr[2]; Tung K. Chau[2]; Thomas R. Covey[2]; *[1]Pfizer Global Research and Development, Groton, CT; [2]MDS Sciex, Concord, Ontario*

WOCam 10:55 **Evaluation of a Combined Electrospray and Photoionization Source**; Karl Hanold; Tom Lynn; Jack Syage; *Syagen Technology Inc, Tustin, CA*

WOCam 11:15 **LC Option: Fast and Effective GC/LC-MS Conversion for Full Range Operation**; Achille Cappiello; Pierangela Palma; Giorgio Famiglini; Antonella Siviero; Filippo Mangani; *Istituto di Scienze Chimiche, Università di Urbino, Urbino, Italy*

WOCam 11:35 **Microfluidic HPLC System for Highly Sensitive Peptide Identification by LC-MS**; David Neyer; Christopher Bailey; Karen Hahnenberger; Phil Paul; David Rakestraw; Jason Rehm; *Eksigent Technologies, Livermore, CA*

WOCam 11:55 **A Novel Microfludics Orthogonal Electrospray - APCI Ion Source**; Paul C Goodley; Mark Werlich; Michael Zumwalt; *Agilent Technologies, Santa Clara, CA*

HIGH THROUGHPUT SCREENING

WODam 10:15 **Determination of the Substrate Specificity of Ubiquitin C-Terminal Hydrolases by LC-MS Analysis of a Positional Scanning Peptide Library with Four Diversified Positions**; Daniel E. Mason; Jennifer L. Harris; Eric C. Peters; Jared Ek; *Genomics Institute of the Novartis Research Foundation, San Diego, CA*

WODam 10:35 **Development of an LC-MS Based Enzyme Assay for Screening Inhibitors and Mechanistic Studies of *Escherichia coli* UDP-*N*-Acetylmuramyl-L-Alanine Ligase (MurC)**; Gejing Deng; Rong-Fang Gu; Stephen Marmor; Stewart L. Fisher; Haris Jahic; Gautam Sanyal; *Infection Discovery, Dept. of Biochemistry, AstraZeneca R&D Boston, Waltham, MA*

WODam 10:55 **Development of a True Mass Spectrometry Based High Throughput Screening Method for Discovering Small Molecule Inhibitors for Protein Targets**; Mark T. Cancilla; Simone L. Evarts; Jun Wang; Andrew C. Braisted; Jeff W. Jacobs; Daniel A. Erlanson; James A. Wells; *Sunesis Pharmaceuticals, South San Francisco, CA*

WODam 11:15 **Genome-Scale Drug Discovery by Affinity Selection-Mass Spectrometry-Based Screening of Mass-Encoded Small Molecule Libraries**; Allen Annis; *NeoGenesis Pharmaceuticals Inc., Cambridge, MA*

WODam 11:35 **High-Throughput Analysis of Protein-Ligand Interactions Using a MALDI- and H/D Exchange-Based Technique**; Kendall D. Powell; Michael C. Fitzgerald; *Duke University, Durham, NC*

WODam 11:55 **Enhanced Frontal Affinity Chromatography/Mass Spectrometry for Molecular Interaction Analysis**; Gordon W. Slysz; Ella S.M. Ng; John K. Chik; David C. Schriemer; *University of Calgary, Calgary, Alberta, Canada*

ION CATALYSIS

WOEam 10:15 **Elementary Steps in Gas-Phase Catalysis as Studied by Mass Spectrometry and Computational Chemistry**; Helmut Schwarz; *Institut fuer Chemie, Technische Universitaet Berlin, Berlin, Germany*

WOEam 10:55 **Heterogeneous Catalysis in the Gas Phase: Size-Specific Reactions of Iron Cluster Cations with Ammonia**; Rohana Liyanage; Peter B. Armentrout; *Department of Chemistry, University of Utah, Salt Lake City, UT*

WOEam 11:15 **Homogeneous Atomic Metal Ion Catalysis of the Reduction of NO_X in the Presence of CO to N_2 and CO_2 in the Gas Phase**; Voislav Blagojevic; Michael J.Y. Jarvis; Eric Flaim; Gregory K. Koyanagi; Vitali V. Lavrov; Diethard K. Bohme; *Department of Chemistry, York University, Toronto, Canada*

WOEam 11:35 **Catalyzed Tautomerization Reactions in Ion-Neutral Complexes Studied by Tandem Mass Spectrometry**; Lisa N. Heydorn; Johan K. Terlouw; *McMaster University, Hamilton, Ontario, Canada*

WOEam 11:55 **Metal Cationization Catalyzes the Gas-Phase Tautomerization of 2-Hydroxypyridine to 2-Pyridone**; Mary T. Rodgers; *Wayne State University, Detroit, MI*

CARBOHYDRATES

WOFam 10:15 **Recent Advances in the Use of MALDI and Electrospray Ionization Mass Spectrometry for the Analysis of Carbohydrates and Glycoconjugates**; David J. Harvey; *Department of Biochemistry, University of Oxford, Oxford, UK*

WOFam 10:35 **LC-ES-MS^2 of *N*- and *O*-Linked Oligosaccharides Applicable to 1-D and 2-D SDS-Page Separated Glycoproteins**; Niclas G. Karlsson; Nicole L. Wilson; Benjamin L. Schulz; Leanne Robinson; Nicolle H. Packer; *Proteome Systems Ltd., Sydney, Australia*

WOFam 10:55 **Characterization of Glycosylation Expression of Glycoproteins by MS**; Mark E McComb; Eric A Berg; Catherine E Costello; *Boston University School of Medicine, Boston, MA*

WOFam 11:35 **Towards High-Throughput Glycomics: Development of the StrOligo Program for Automated Analysis of N-linked Glycans MS/MS Spectra for Structure Determination**; Martin Ethier[1]; Julian A. Saba[1]; Maureen Spearman[3]; Oleg Krokhin[2]; Michael Butler[3]; Werner Ens[2]; Kenneth G.

Standing[2]; Hélène Perreault[1]; *[1]Department of Chemistry, University of Manitoba, Winnipeg, Canada; [2]Department of Physics, University of Manitoba, Winnipeg, Canada; [3]Department of Microbiology, University of Manitoba, Winnipeg, Canada*

WOFam 11:55 **Compositional Analysis and Quantification of Heparin and Heparan Sulfate by Electrospray Ionization Ion Trap Tandem Mass Spectrometry**; Ola Saad; Julie A. Leary; *University of California, Berkeley, CA*

WEDNESDAY AFTERNOON

IMAGING MASS SPECTROMETRY

WOApm 3:00 **Imaging Mass Spectrometry: A Brief Review and Perspective**; Richard M. Caprioli; *Vanderbilt University School of Medicine, Nashville, TN*

WOApm 3:40 **Molecule-Specific Imaging of Single-Cell Membranes with Secondary Ion Mass Spectrometry**; Sara G. Ostrowski; Thomas P. Roddy; Christopher W. Szakal; Andrew G. Ewing; Nicholas Winograd; *The Pennsylvania State University, University Park, PA*

WOApm 4:00 **A High Spatial Resolution Gallium Liquid Metal Ion Source TOF-SIMS with High Mass Accuracy FTMS Capability**; Gary H. Kruppa; Richard Behrens; Robert J. Bastasz; Sean A. Maharrey; Saskia Hoffer; *Sandia National Laboratory, Livermore, CA*

WOApm 4:20 **Optimization and Application of MALDI MS Imaging in Biomedical Research**; Markus Stoeckli; Dieter Staab; Luca Signor; Jan Tromp; *Novartis Institutes for BioMedical Research Basel, Basel, Switzerland*

WOApm 4:40 **The Mass Microscope : A New Look at Biomolecular Surfaces**; Ron M.A. Heeren; Stefan L. Luxembourg; A. F. Maarten Altelaar; Sander R. Piersma; Jaap J. Boon; Frans G. Giskes; Gert B. Eijkel; Liam McDonnell; Todd H. Mize; Dirk-Jan Spaanderman; *FOM Institute for Atomic and Molecular Physics, Amsterdam, The Netherlands*

PROTEIN ANALYTICS: TOP DOWN SEQUENCING

WOBpm 3:00 **Key Features of Top Down Mass Spectrometry**; Fred W. McLafferty; Huili Zhai; Vladimir Zabrouskov; HanBin Oh; Cheng Lin; Harold Hwang; *Cornell University, Ithaca, NY*

WOBpm 3:40 **Top Down Proteomics of *Saccharomyces cerevisiae* Driven by Q-FT Mass Spectrometry and Automated Nanospray**; Fanyu Meng[1]; Leah M. Miller[1]; Steven M. Patrie[1]; Andrews J. Forbes[1]; Gregory K. Taylor[2]; Yong-Bin Kim[2]; Yi Du[1]; Michael J. Roth[1]; Neil L. Kelleher[1]; *[1]Department of Chemistry, University of Illinois, Urbana, IL; [2]Department of Computer Science, University of Illinois, Urbana, IL*

WOBpm 4:00 **Top-Down/Bottom-Up Characterization of the PP3 Bovine Milk Protein with and without Post-translational Modifications by (Hot) Electron Capture Dissociation**; Frank Kjeldsen[3]; Kim F. Haselmann[3]; Bogdan A. Budnil[3]; Esben S. Sorensen[2]; Roman A. Zubarev[1]; *[1]Uppsala University, Uppsala, Sweden; [2]Aarhus University, Aarhus, Denmark; [3]University of Southern Denmark, Odense, Denmark*

WOBpm 4:20 **Terminus-Specific Fragmentation, a Novel Tool for the Direct Characterization of Intact Proteins**; Anja Resemann; Detlev Suckau; *Bruker Daltonik, Bremen, Germany*

WOBpm 4:40 **Top-Down Analysis of Protein Mixtures without a Magnet;** Scott A. McLuckey[1]; Ravi Amunugama[1]; Kelly A. Newton[1]; Jason M. Hogan[1]; Ethan R. Badman[1]; Sharon Pitteri[1]; Dawn M. Watson[1]; Peng Pan[1]; Gavin E. Reid[2]; *[1]Purdue University, West Lafayette, IN; [2]Joint Protein Structure Laboratory, Ludwig Institute for Cancer Resear, Melbourne, Australia*

LCMS: NOVEL TECHNOLOGIES

WOCpm 3:00 **Liquid Chromatography and Mass Spectrometry: Technology Begets Technology**; Arthur Moseley; *GlaxoSmithKline, RTP, NC*

WOCpm 3:20 **Reduction of Bioanalytical Cycle Time by Using Monolithic C18 and Underivatized Silica Columns in High Flow-Rate LC-MS/MS**; Naidong Weng; Yu-Luan Chen; Wilson Shou; Shaolian Zhou; Xiangyu Jiang; *Covance Laboratories, Inc., Madison, WI*

WOCpm 3:40 **The Use of 2DLC-MS/MS in Proteome Characterization – Optimization of the LC Step**; Johan Axelman[1]; Henrik Wadensten[1]; Staffan Renlund[1]; Anders Tangen[1]; Hans-Rudolf Hoepker[2]; Axel Parbel[2]; *[1]Amersham Biosciences AB, Uppsala, Sweden; [2]Amersham Biosciences Europe GmbH, Freiburg, Germany*

WOCpm 4:00 **Capillary Column of 50µm Inner Diameter Allows Dramatic Sensitivity Enhancement in Nano-LC-Nano-ESI-MS/MS Applied to Human Cancer Cell Proteomics;** Marianne Fillet[2]; Cecile Cren-Olive[1]; Christian Rolando[1]; *[1]Université des Sciences et Technologies de Lille, UMR CNRS 8009, LCOM, Villeneuve d'Ascq, France; [2]Université de Liege, Laboratoire de Chimie Médicale, Liege, Belgique*

WOCpm 4:20 **Analysis of Beta Lactam Antibiotics Veterinary Drug Residues in Bilogical Matrices by Solid Phase Extraction and/or Supported Liquid Membrane-Liquid Chromatography-Electrospray Mass Spectrometry**; Prince Kolanyane; Titus A. M. Msagati; Mathew M. Nindi; *Department of Chemistry, University of Botswana, P. Bag UB 00704, Gaborone, Botswana*

WOCpm 4:40 **Chip-LC/MS: An Integrated Solution for Complex Proteomics Sample Analyses**; Hongfeng Yin; Kevin Killeen; Reid Brennen; Dan Sobek; Tom van de Goor; *Agilent Technologies, Palo Alto, CA*

DNA AND DNA COMPLEXES

WODpm 3:00 **Analysis of DNA by Mass Spectrometry: From Sequencing to Genotyping to Drug Discovery**; Steven A. Hofstadler; Lendell L. Cummins; Jared J. Drader; James C. Hannis; Yun Jiang; Sheri Manalili; Kristin A. Sannes-Lowery; *Ibis Therapeutics, A Division of Isis Pharmaceuticals, Carlsbad, CA*

WODpm 3:40 **High-Throughput Analysis of Oligonucleotides using Automated Electrospray Ionization Mass Spectrometry**; Mark E. Hail[1]; Brian Elliott[2]; Jeffrey L. Whitney[1]; David J. Detlefsen[1]; Kerry Nugent[3]; Kerry Nugent[3]; *[1]Novatia, Princeton, NJ; [2]Integrated DNA Technologies, Coralville, IA; [3]Michrom BioResources, Auburn, CA*

WODpm 4:00 **A Method Using a Novel Linear Amplification Reaction with Mass Spectrometry for DNA Genotyping;** Martin Gilar[1]; Kenneth J. Fountain[1]; Jeffrey B. Graybill[2]; John C. Gebler[1]; *[1]Waters Corp., Milford, MA; [2]Ionian Technologies, Upland, CA*

WODpm 4:20 **Charge Dependent Fragmentation of Oligonucleotide Anions via Collision-Induced**

Dissociation and Ion/Ion Reactions; Jin Wu; Scott A. McLuckey; *Purdue University, West Lafayette, IN*

WODpm 4:40 **Identification and Characterization of a Cross-link Lesion in d(CpC) upon UVA Irradiation in the Presence of 2-Methyl-1,4-Naphthoquinone**; Zhenjiu Liu; Yinsheng Wang; *University of California, Riverside, CA*

ION THERMOCHEMISTRY

WOEpm 3:00 **Ion (and Neutral) Thermochemistry;** John L. Holmes; *University of Ottawa, Ottawa, Ontario*

WOEpm 3:40 **Thermochemistry and Collision-Induced Dissociation of Energetic Azolide Anions in the Gas Phase**; Shuji Kato; Rebecca L. Hoenigman; W. Carl Lineberger; Veronica M. Bierbaum; *University of Colorado, Boulder, CO*

WOEpm 4:00 **Synthesis and Characterization of Gas-Phase Oxy-Germanium Anions**; Luciano A. Xavier[1]; Nelson H. Morgon[2]; Jose M. Riveros[1]; *[1]Instituto de Química, Universidade de Sao Paulo, Sao Paulo, Brazil; [2]Instituto de Química, Universidade Estadual de Campinas, Campinas, Brazil*

WOEpm 4:20 **Proton Bound Clusters of Aminoesters in the Gas Phase: Equilibrium Studies by High Pressure Mass Spectrometry and Quantum Chemical Calculations;** Aude Simon; Kevin C. Hadley; Terry B. McMahon; *University of Waterloo, Waterloo, Ontario*

WOEpm 4:40 **Heads and Tails: The Coiling of Long Chains around Ionic Sites;** John E. Bartmess; *Dept. of Chemistry, University of Tennessee, Knoxville, TN*

ENVIRONMENTAL MS

WOFpm 3:00 **A Tandem Mass Spectrometric Study of the N-Oxides Quinoline N-Oxide, Carbadox, and Olaquindox Carried out at High Mass Accuracy Using Electrospray and Atmospheric Pressure Chemical Ionization Sources;** Raymond E. March; Xiu-Sheng Miao; Chris D. Metcalfe; *Trent University, Peterborough, Canada*

WOFpm 3:20 **Analysis of Sulfadimethoxine in Fish-Hatchery Ponds by LC/MS (Time-of-Flight) and LC/MS/MS (Ion Trap and Quadrupole-Time-of-Flight)**; E. Michael Thurman[1]; Imma Ferrer[2]; Mark Benotti[3]; Curt E. Heine[4]; *[1]U.S. Geological Survey, Lawrence, Kansas; [2]U.S. Geological Survey, Denver, CO; [3]Marine Sciences, SUNY, Stony Brook, NY; [4]Waters Corporation, Beverly, MA*

WOFpm 3:40 **Disinfection By-Products of Health Concern in Drinking Water: Results of a Nationwide Occurrence Study**; Susan D. Richardson[1]; Alfred D. Thruston, Jr. [1]; Stuart W. Krasner[2]; Howard S. Weinberg[3]; Russell Chinn[2]; Michael J. Sclimenti[2]; Salvador Pastor[2]; Gretchen D. Onstad[3]; *[1]U.S. Environmental Protection Agency, National Exposure Research Lab, Athens, GA; [2]Metropolitan Water District of Southern California, La Verne, CA; [3]University of North Carolina, Chapel Hill, NC*

WOFpm 4:00 **The Use of Creative ROOMS to Study the Trans-Pacific Atmospheric Transport of Semi-Volatile Organic Compounds**; Staci L Simonich; *Oregon State University, Corvallis, OR*

WOFpm 4:20 **Real-Time Single Particle Mass Spectrometry at the Baltimore Supersite: What New Information Do Ultrafine Single Particle Measurements Give?**; Murray Johnston[1]; Derek Lake[1]; Michael Tolocka[1]; Anthony Wexler[2]; *[1]University of Delaware, Newark, DE; [2]University of California, Davis, CA*

WOFpm 4:40 **Characterization of Crude Oil and Coal Derived Water-Soluble Organics by High Resolution ESI FT-ICR Mass Spectrometry**; Ryan P. Rodgers[1]; Zhigang Wu[2]; Geoffrey C. Klein[2]; Lateefah A. Stanford[2]; Alan G. Marshall[1]; *[1]Ion Cyclotron Resonance Program, National High Magnetic Field Lab, Tallahassee, FL; [2]Department of Chemistry and Biochemistry, Florida State University, Tallahassee, FL*

THURSDAY MORNING, June 12

PLENARY LECTURE

8:00 – 8:45 **Targeting Protein-Protein Interactions Using Synthetic Agents***;* Andrew D. Hamilton*,* Yale University

INSTRUMENTATION: GENERAL

ThOAam 10:15 **Mapping the Properties of Center of Mass Collision Energy on a MALDI TOF/TOF Mass Spectrometer - Fundamentals and Applications**; Jennifer M. Campbell; *Applied Biosystems, Framingham, MA*

ThOAam 10:35 **A New High Field Asymmetric Waveform Ion Mobility Spectrometer for Mass Spectrometric Analysis**; Randy W. Purves; Barbara Ells; Roger Guevremont; David A. Barnett; *Ionalytics Corporation, Ottawa, Canada*

ThOAam 10:55 **Monitoring Enzyme Kinetics on the Millisecond Time Scale Using Electrospray Ionization Mass Spectrometry: A Novel, Non-stationary Capillary Mixing Technique**; Derek J Wilson[1]; Fraser E. Marie[2]; Lars Konermann[1]; *[1]University of Western Ontario, London, Ontario, Canada; [2]University of Calgary, Calgary, Alberta, Canada*

ThOAam 11:15 **Preparative Separation of Mixtures by Mass Spectrometry**; Philip S. Mayer[1]; Frantisek Turecek[1]; Hak-No Lee[1]; Adi A. Scheidemann[1]; Terry A. Olney[1]; Frank Schumacher[1]; Petr Strop[2]; Martin Smrcina[2]; Marcel Patek[2]; Daniel Schirlin[2]; *[1]University of Washington, Seattle, WA; [2]Selectide-Aventis, Tuscon, AZ*

ThOAam 11:35 **Atmospheric Pressure Charged Particle Discrimination Interface for Low Flow Rate ESI-MS**; Bradley B Schneider[1]; Manish Jugroot[2]; Clinton PT Groth[2]; Thomas R Covey[1]; *[1]MDS SCIEX, Concord, Ontario; [2]University of Toronto Institute for Aerospace Studies, Toronto, Ontario*

ThOAam 11:55 **Use of a Novel Array Detector for the Direct Analysis of Solid Samples by Laser Ablation Inductively Coupled Plasma Mass Spectrometry**; James H. Barnes, IV[1]; Gregory D. Schilling[1]; Roger Sperline[2]; M. Bonner Denton[2]; Charles J. Barinaga[3]; David W. Koppenaal[3]; Gary M. Hieftje[1]; *[1]Indiana University, Bloomington, IN; [2]University of Arizona, Tucson, AZ; [3]Pacific Northwest National Laboratory, Richland, WA*

FUNDAMENTALS OF PEPTIDE FRAGMENTATION

ThOBam 10:15 **Understanding, Prediction and Control of Peptide Ion Fragmentation**; Simon J Gaskell; Joanne Connolly; Shabaz Mohammed; Isabel Riba Garcia; Alexander Yates; *UMIST, Manchester, UK*

ThOBam 10:55 **Fragmentation of Protonated Peptides: Fragment Structures and Mechanisms**; Houssain El Aribi[1]; R. Natasha Grewal[1]; Christopher F. Rodriquez[2]; Galina Orlova[1]; Alan C. Hopkinson[1]; K.W. Michael Siu[1];

[1]Dept. Chemistry & Centre for Research in MS, York University, Toronto, Ontario, Canada; [2]Dept. of Chemistry, McNeese State University, Lake Charles, LA

ThOBam 11:15 **Dissociation of Deprotonated Peptide Ions Containing Aspartic Acid and Glutamic Acid Residues**; Carolyn J. Cassady; Zhong Li; Sharon Webb; Talat Yalcin; *The University of Alabama, Tuscaloosa, AL*

ThOBam 11:35 **Fundamentals of Peptide Fragmentation as a Function of Laser Fluence in a MALDI TOF-TOF Mass Spectrometer**; Alfred L Yergey[1]; Jennifer M Campbell[2]; Paul S Blank[1]; Marvin L Vestal[2]; *[1]NICHD, NIH, Bethesda, MD; [2]Applied Biosystems, Framingham, MA*

ThOBam 11:55 **A Large-Scale Statistical Analysis of Peptide Dissociation Patterns**; Vicki H. Wysocki[1]; Yingying Huang[1]; Joseph M. Triscari[2]; Gordon A. Anderson[3]; Mary S. Lipton[3]; Ljiljana Pasa-Tolic[3]; Richard D. Smith[3]; *[1]University of Arizona, Tucson, AZ; [2]Science Application International Corporation, Tucson, AZ; [3]Pacific Northwest National Laboratory, Richland, WA*

METABONOMICS: HUMAN NATURAL PRODUCT PROFILING

ThOCam 10:15 **Human Natural Product Profiling**; Liz Want[1]; Zhouxin Shen[2]; Martin Sonderegger[2]; Winnie Popovich[1]; Gary Siuzdak[1]; *[1]The Scripps Research Institute, La Jolla, CA; [2]Mass Consortium Corporation, San Diego, CA*

ThOCam 10:35 **Understanding the Depostion of Glycolipids in Fabry Disease**; John J. Thomas[1]; Christa Beauregard[1]; Helmut Kallwass[2]; Kate Zhang[1]; *[1]Genzyme Corporation, Framingham, MA; [2]Genzyme Corporation, Cambridge, MA*

ThOCam 10:55 **Probing Biofluids Using Mass Spectrometry and Metabonomics**; John P. Shockcor[1]; Andrew Nicholls[1]; Henrik Antti[1]; Jose Castro-Prez[2]; Hilary Major[2]; Rob Plumb[3]; *[1]Metabometrix Ltd., London, UK; [2]MS Technologies Centre (Micromass UK Ltd.), Manchester, UK; [3]Water Corp., Milford, MA*

ThOCam 11:15 **Cerebrospinal Fluid Metabolomics: a Systems Approach for Biomarker Discovery**; Haihong Zhou; Gary Frenzel; Christopher H. Becker; *SurroMed, Inc., Mountain View, CA*

ThOCam 11:35 **Fast Tracking the Drug Development Process by Using LC/MS(TOF) and Metabonomics**; Robert Plumb[1]; Chris Stumpf[1]; Marc Gorenstein[1]; Jose Castro-Perez[2]; Hilary Major[2]; Steven Cohen[1]; John Haselden[3]; Maria Anthony[3]; Gordon Dear[3]; *[1]Waters Corporation, Milford, MA; [2]Water Corporation, Manchester, UK; [3]GlaxoSmithKline, Ware, UK*

ThOCam 11:55 **Metabonomic Profiling Associated with Hydrazine Toxicity Using LC/TOF-MS**; Brian T. Regg; Timothy R. Baker; Kenneth L. Morand; Karen H. Strader; Anne F. Russell; *Procter & Gamble Pharmaceuticals, Mason, OH*

STABILITY CONSTANTS OF PROTEIN LIGAND COMPLEXES: DETERMINATIONS FROM THE EQUILIBRIUM IN SOLUTION

ThODam 10:15 **Soft Ionization Methods for Quantifying Noncovalent Binding Interactions**; Renato Zenobi; Jürg Daniel; Silke Wendt; Sandra Alves; *ETH Zürich, Zurich, Switzerland*

ThODam 10:35 **Determination of Binding Energy and Location for RNA Complexes Using ESI-MS**; Richard H. Griffey; Kristin Lowery; Jared Drader; Steven Hofstadler; *Isis Pharmaceuticals, Carlsbad, CA*

ThODam 10:55 **ESI MS-Based Diffusion Measurements for the Screening of Small Molecule Candidates for Binding to a Target Protein**; Sonya M. Clark; Lars Konermann; *University of Western Ontario, London, Canada*

ThODam 11:15 **Influence of Solution and Gas Phase Processes on Protein-Carbohydrate Binding Affinities Determined by Nano ES-FT-ICR/MS**; Weijie Wang; Elena N. Kitova; John S. Klassen; *University of Alberta, Edmonton, Canada*

ThODam 11:35 **Is the Determination of Stability Constants for Protein Complexes Compatible with the Mechanism of ESIMS?** Udo H. Verkerk; Michael Peschke; Paul Kebarle; *Department of Chemistry, Edmonton, Canada*

ThODam 11:55 **Probing Non-Covalent Protein-Ligand Interactions of cGMP-Dependent Protein Kinase by Nanoflow ESI Orthogonal Time of Flight MS**; Arjen Scholten[1]; Martijn WH Pinkse[2]; Claudia S Maier[3]; Albert JR Heck[2]; Wolfgang RG Dostmann[1]; *[1]University of Vermont, Burlington, VT; [2]Utrecht University, Utrecht, The Netherlands; [3]Oregon State University, Corvallis, OR*

NON-COVALENT PROTEIN COMPLEXES

ThOEam 10:15 **Dissociation and Association of Supramolecular Elephants (i.e. Protein Complexes) Studied by Mass Spectrometry**; Albert J R Heck; Kees Versluis; Nora Tahallah; Martijn W H Pinkse; Claudia S Maier; van den Bremer Ewald T J; *Utrecht University, Utrecht, The Netherlands*

ThOEam 10:35 **Influence of Charge on the Structure and Stability of Gaseous Protein-Trisaccharide Complexes**; Elena N Kitova; John S Klassen; *University of Alberta, Edmonton, Canada*

ThOEam 10:55 **The Origin of Asymmetric Noncovalent Complex Dissociation**; Evan Williams; John Jurchen; David Garcia; *University of California, Berkeley, CA*

ThOEam 11:15 **Analysis of Large Supramolecular Protein Complexes by Mass Spectrometry and Gas Phase Mobility**; Joseph A. Loo[1]; Stanley L. Kaufman[2]; Igor V. Chernushevich[3]; *[1]UCLA, Depts. of Biochemistry and Biol. Chem., Los Angeles, CA; [2]TSI, Inc., St. Paul, MN; [3]MDS Sciex, Concord, ON*

ThOEam 11:35 **Conformation and Clustering Properties of the Alzheimers Peptides Abeta(40) and Abeta(42)**; Summer Bernstein[1]; Thomas Wyttenbach[1]; Michael T. Bowers[1]; Gal Bitan[2]; David Teplow[2]; *[1]Department of Chemistry, University of California, Santa Barbara, CA; [2]Center for Neurologic Diseases, Brigham and Womens Hospital, Harvard, Boston, MA*

ThOEam 11:55 **Polydispersity of a Mammalian Chaperone - Mass Spectrometry Reveals the Population of Oligomers in <α>-Crystallin;** J. Andrew Aquilina[1]; Justin L. Benesch[1]; Orval O. Bateman[2]; Christine Slingsby[2]; Carol V. Robinson[1]; *[1]Cambridge University, Cambridge, UK; [2]Birkbeck College, London, UK*

PETROLEOMICS, INCLUDING BIOMARKERS, ORGANIC GEOCHEMISTRY

ThOFam 10:15 **Petroleomics Based on Ultrahigh-Resolution Mass Spectrometry**; Alan G Marshall[1]; Greg T Blakney[1]; Helen J Cooper[1]; Christopher L Hendrickson[1]; Geoffrey C Klein[2]; John P Quinn[1]; Ryan P Rodgers[1]; Kuangnan Qian[3]; Tanner M Schaub[2]; Zhigang Wu[2]; *[1]NHMFL, Florida State University, Tallahassee, FL;*

[2]*Dept of Chemistry & Biochemistry, Florida State University, Tallahassee, FL;* [3]*ExxonMobil Research and Engineering Company, Annandale, NJ*

ThOFam 10:35 **Two-Dimensional Chromatography Using SFC and GC/MS to Investigate Refining Processes in the Preparation of Light Gas Oils and other Materials**; Louis Ramaley; Robert D. Guy; Genevieve Mercier; *Dalhousie University, Halifax, Canada*

ThOFam 10:55 **Characterization of Chemical Constituents in Petroleum**; Yevgenia Briker; Zbigniew Ring; *National Centre for Upgrading Technology, Devon, Alberta, Canada*

ThOFam 11:15 **Characterization of Polycyclic Aromatic Hydrocarbons in Heavy Petroleum Products or in Exhaust Combustion Products by Laser Desorption/Ionization Fourier Transform Ion Cyclotron Resonance Mass Spectrometry Assisted by Charge Transfer Complexant**; Vincent Carre[1]; Lionel Vernex-Loset[1]; Gabriel Krier[1]; Jean-François Muller[1]; Pascal Manuelli[2]; [1]*Laboratoire de Spectrometrie de Masse et de Chimie Laser, Metz, France;* [2]*CReG, Totalfinaelf, Harfleur, France*

ThOFam 11:35 **Applications and Advantages of Exact Mass Orthogonal TOF (Time of Flight) Mass Spectrometry in the Petroleum Industry;** Steve Smith; Anthony Newton; David Douce; Martin Green; Peter Hancock; *Waters Corporation, Micromass UK Ltd, Manchester, UK*

ThOFam 11:55 **The Coupling of Supercrtical Fluid Chromatography and Field Ionization Time-of-Flight High Resolution Mass Spectrometry for Quantitative Analysis of Petroleum Middle Distillates**; Kuangnan Qian; John W. Diehl; Gary J. Dechert; Frank P. DiSanzo; *ExxonMobil Research Engineering Company, Annandale, NJ*

THURSDAY AFTERNOON

DEVELOPMENTS IN ION MOBILITY

ThOApm 3:00 **Development of High-Sensitivity Ion Mobility Techniques for the Analysis of Complex Systems: from Gas-Phase Protein Ion Conformations to Proteomics**; David E. Clemmer; *Indiana University, Bloomington, IN*

ThOApm 3:20 **Ion Mobility at High Fields (FAIMS): Fundamentals and Analytical Capabilities**; Richard A. Yost[1]; Leonard C. Rorrer III[1]; Michael W. Belford[1]; Roger Guevremont[2]; [1]*University of Florida, Department of Chemistry, Gainesville, FL;* [2]*Ionalytics Corporation, Ottawa, Canada*

ThOApm 3:40 **Links between Gas-Phase and Solution-Phase Conformation of Tryptic Peptides: Rapid Screening for Protein Structural Elements Using Ion Mobility Mass Spectrometry**; Brandon T Ruotolo; David H Russell; *Texas A&M University, College Station, TX*

ThOApm 4:00 **Studies of Protein Conformation Using Mass Spectrometry**; Jim H Scrivens[1]; Mike Bowers[2]; Bob Bateman[3]; [1]*University of Warwick, Coventry, UK;* [2]*UCSB, Santa Barbara, CA;* [3]*Waters, Manchester, UK;* [4]*Waters Corporation, Micromass UK Ltd., Manchester, UK*

ThOApm 4:20 **Unique Detection Scheme for Ion Mobility Spectrometry Using Continuous Beam Modulation**; Andrew W. Szumlas; Gary M. Hieftje; *Indiana University, Bloomington, IN*

ThOApm 4:40 **Ion Focusing in FAIMS: Ion Distribution in the Annular Space between Cylindrical Analyzer Electrodes as the Basis for Calculation of Peak Shapes in a CV Spectrum**; Roger Guevremont[1]; David A. Barnett[1]; Barbara Ells[1]; Randy W. Purves[1]; G. Unny Thekkadath[1]; Larry A. Viehland[2]; [1]*Ionalytics Corporation, Ottawa, Canada;* [2]*Chatham College, Pittsburgh, PA*

MICROFLUIDIC DEVICES, MICROARRAYS AND MS DETECTION

ThOBpm 3:00 **Micro and Nanofluidic Systems for Mass Spectrometry**; Harold Craighead; *Cornell University, Ithaca, NY*

ThOBpm 3:40 **Microfluidics and Nanochemistry for MALDI-TOF MS**; Thomas Laurell[1]; Simon Ekstrom[1]; David Eriksson[2]; Tasso Miliotis[2]; Gyorgy Marko-Varga[1]; [1]*Dept. Electrical Measurements, Lund Inst. Tech., Lund University, Lund, Sweden;* [2]*Dept. Analytical Chemistry, Lund University, Lund, Sweden*

ThOBpm 4:00 **Microfluidic Separation System with Integrated, Quantitative Fraction Collection and Mass Spectrometric Analysis;** Michal Spesny[1]; Jakub Grym[1]; Per Andersson[2]; Frantisek Foret[1]; [1]*Institute of Analytical Chemistry, Brno, Czech Republic;* [2]*Gyros AB, Uppsala, Sweden*

ThOBpm 4:20 **Chip-Based BioAnalytical Determination of Small Molecule Drugs in Plasma from Human, Rat and Dog;** Jack Henion; James Kapron; Ellen Pace; Colleen K. Van Pelt; *Advion BioSciences, Inc., Ithaca, NY*

ThOBpm 4:40 **Microchip Integrated Separation Systems for Proteomic Applications**; Iulia M. Lazar; Barry L. Karger; *Barnett Institute, Boston, MA*

PROTEIN PHOSPHORYLATION AND PHOSPHOPROTEOMICS

ThOCpm 3:00 **The Critical Role of Mass Spectrometry in the Analysis of Phosphorylation-Dependent Cellular Pathways**; Roland S. Annan; Francesca Zappacosta; Michael J. Huddleston; Dean E. McNulty; Therese A. Sterner; Susan L. Chen; *GlaxoSmithKline, King of Prussia, PA*

ThOCpm 3:40 **FT-ICR MS^n Approaches to the Characterization of Protein Phosphorylation**; Michael J Chalmers[1]; Kristina Håkansson[1]; John P Quinn[1]; Greg T Blakney[1]; Christopher L Hendrickson[1]; Mark R Emmett[1]; Robert Johnson[2]; Jianwei Shen[2]; Richard Smith[2]; Alan G Marshall[1]; [1]*Ion Cyclotron Resonance Program, NHMFL, Florida State University, Tallahassee, FL;* [2]*Abbott Laboratories, Abbott Park, IL*

ThOCpm 4:00 **A Systematic, Hypothesis-Driven Multiple Stage Mass Spectrometric Approach towards Comprehensive Phosphopeptide Detection**; Emmanuel J Chang; Derek T McLachlin; Vincent Archambault; Andrew Krutchinsky; Brian T Chait; *The Rockefeller University, New York, NY*

ThOCpm 4:20 **SHAVE & CONQUER: An IMAC/nLC-MS/MS Based Strategy for Identification and Characterization of Phosphorylated Membrane Proteins;** Allan Stensballe[1]; Thomas Nuhse[2]; Scott Peck[2]; Ole N. Jensen[1]; [1]*University of Southern Denmark, Odense, Denmark;* [2]*Sainsbury Laboratory, Norwich, UK*

ThOCpm 4:40 **Time Course of EGF-Stimulated Phosphotyrosine Phosphorylation Studied via Triple Encoding with Stable Isotope Labeled Amino Acids in Cell Culture (SILAC)**; Shao-En Ong; Blagoy Blagoev; Irina Kratchmarova; Matthias Mann; Jens S. Andersen; Matthias Mann; *Center for Experimental Bioinformatics, Uni Southern Denmark, Odense, Denmark*

IMMUNOLOGY AND MASS SPECTROMETRY

ThODpm 3:00 **Mass Spectrometry and Immunology - An Introduction**; Kenneth Tomer; *National Institute of Environmental Health Sciences, Res. Tri. Pk., NC*

ThODpm 3:20 **Identification of a Peptide Antigen Recognized by Autoreactive, Cytotoxic T-Cells Involved in Type 1 Diabetes**; Anne M. Evans[1]; Scott M. Lieberman[2]; Bingye Han[3]; Jeffrey Shabanowitz[1]; Stanley G. Nathenson[2]; Pere Santamaria[3]; Teresa P. DiLorenzo[2]; Donald F. Hunt[1]; *[1]University of Virginia, Charlottesville, VA; [2]Albert Einstein College of Medicine, Bronx, NY; [3]University of Calgary, Calgary, Canada*

ThODpm 3:40 **New Molecular Tools for Developing Vaccine Lead Structures Against Alzheimer's Disease by Mass Spectrometric Epitope Identification**; Michael Przybylski[1]; Xiaodan Tian[1]; Roxana Cecal[1]; Andreas Marquardt[1]; Marilena Manea[1]; Gabor Mezo[2]; Ferenc Hudecz[2]; JoAnne McLaurin[3]; Peter St George-Hyslop[3]; *[1]University of Konstanz, Konstanz, Germany; [2]Eötvös Loránd University, Budapest, Hungary; [3]University of Toronto, Toronto, Canada*

ThoDpm 4:00 **Proteomic Studies Profiling Surface Antigens on Th1 and Th2 Cells**; Kelly M. Loyet; Wenjun Ouyang; John T. Stults; Dan L. Eaton; *Genentech, Inc., South San Francisco, CA*

ThODpm 4:20 **Determination of the Epitope on the HIV *env*-Protein Recognized by the Neutralizing Monoclonal Antibody C4E10**; Christine M Hager-Braun[1]; John P Moore[2]; Hermann Katinger[3]; Norbert Schuelke[4]; Kenneth B Tomer[1]; *[1]National Institute of Environmental Health Sciences, Research Triangle Park, NC; [2]Joan and Sanford I. Weill Medical College of Cornell University, New York, NY; [3]University of Agriculture and Forestry, Vienna, Austria; [4]Progenics Pharmaceutical Inc., Tarrytown, NY*

ThODpm 4:40 **Mass Spectrometry Based Immunoassays for the Detection of Cardiac Biomarkers**; Eric E. Niederkofler; Dobrin Nedelkov; Kemmons A. Tubbs; Urban A. Kiernan; Randall W. Nelson; *Intrinsic Bioprobes Inc., Tempe, AZ*

BIODEGRADABLE/BIOCOMPATIBLE POLYMERS

ThOEpm 3:00 **The Polymer Chemistry of Biodegradable, Biorenewable and Biocompatible Polymers**; Marc A Hillmyer; *University of Minnesota, Minneapolis, MN*

ThOEpm 3:40 **Case Study for PEG-Protein Characterization: PEG-Cyanovirin-N, a Potential Anti-HIV Agent**; Mary J. Bossard; M. Elizabeth Green; Michael Roberts; Richard Goodin; Yan Zhang; *Nektar Therapeutics, Huntsville, AL*

ThOEpm 4:00 **Polylactides: Biodegradable Polymers with Broad Commercial Applications**; James R Valentine; *Cargill Dow LLC, Minnetonka, MN*

ThOEpm 4:20 **Characterization of Linear and Branched Polyethylenime by ESI-MS, APCI-MS and MALDI-TOF-MS**; James E. Girard[1]; Monica Konaklieva[1]; Jianghong Gu[1]; Charles M. Guttman[2]; Stephanie J. Wetzel[2]; *[1]American University, Washington, DC; [2]National Institute of Standards and Technology, Gaithersburg, MD*

ThOEpm 4:40 **Simplifying the Characterization of Complex Low Molecular Weight Polymers: SFC/MS and Image Analysis Tools**; J. David Pinkston; Michele L. Mangels; *The Procter & Gamble Company, Miami Valley Laboratories, Cincinnati, OH*

BIOANALYTICAL APPLICATIONS OF ICP-MS

ThOFpm 3:00 **The Use of ICP-MS in BioAnalysis, and Element-Tagged Immunoassay**; Scott D. Tanner; Zoe A. Quinn; Vladimir I. Baranov; Dmitry R. Bandura; *MDS SCIEX, Concord, Canada*

ThOFpm 3:40 **"I see P?" What a Biologist can use ICP-MS for**; Olga I Ornatsky[1]; Linda Liao[1]; Dmitry R Bandura[2]; Vladimir I Baranov[2]; *[1]MDS Proteomics Inc., Toronto, Canada; [2]MDS SCIEX Inc., Toronto, Canada*

ThOFpm 4:00 **Potentially New Approaches for Immunoassay Applications Using ICP-MS**; Chao Zhang; Xinrong Zhang; *Tsinghua University, Beijing, P.R. China*

ThOFpm 4:20 **Detection of Phosphorus-31 and Sulfur-32 by ICP-MS in Peptides and Proteins - A New Tool for Protein Phosphorylation Analysis and for Element Proteomics**; Wolf D. Lehmann[1]; Norbert Jakubowski[2]; Mathias Wind[1]; *[1]German Cancer Research Center, Heidelberg, Germany; [2]Institute for Spectrochemistry, Dortmund, Germany*

ThOFpm 4:40 **Selenoprotein Characterisation Studies in Human Serum via Gel Electrophoresis and ICP Mass Spectrometry;** Sarah Stokes[1]; Renli Ma[1]; Cameron W. McLeod[1]; Erik Larsen[2]; *[1]University of Sheffield, Sheffield, UK; [2]Danish Veterinary and Food Administration, Soborg, Denmark*